AMENDMENTS TO THE CLAIMS

1-18 (canceled)

19 (previously presented): A method of fabricating a three-dimensional periodic structure comprising the steps of:

forming layers with at least two kinds of materials sequentially and periodically on a substrate having two-dimensionally periodically recessed or projecting portions; and

employing sputter etching either separately from film deposition or simultaneously with film deposition, at least in a part of said structure, while keeping a pattern of the receded or projecting portions.

20 (previously presented): The method of claim 19, wherein said deposition is further characterized by incidence of particles.

21 (previously presented): The method of claim 19, wherein a period of said structure further comprises at least two kinds of layers including a layer mainly comprising SiO_2 and a layer mainly comprising Si.

22 (currently amended): A structure fabricated by the method of claim 19, comprising at least two kinds of material, at least one said material being a transparent material whose period in at least one dimension is of the order of or a fraction of a wavelength of concerned light, at least two said kinds of materials being in a form of layers, said structure including an x-y direction, at least one said layer being continuous relative to said x-y direction.

AMENDMENT TO THE CLAIMS

23 (previously presented): The structure of claim 22, wherein a part of said structure comprises at least one of a material having a nonlinear optical susceptibility, an electrooptic material, a light emitting material, a light amplifying material, and a conductive material.

24 (currently amended): The structure of claim 22, wherein said layers each have characteristic diffraction effects upon light.

25 (previously presented): The structure of claim 22, wherein said structure further shows optical biaxial anisotropy.

26 (previously presented): The structure of claim 22, wherein said structure further shows dispersion characteristics near the edge of a forbidden frequency band.

27 (new): The structure of claim 22, wherein each said layer is continuous relative to said x-y direction.

28 (new): The structure of claim 22, further including at least one circuit element therein.

29 (new): The structure of Claim 28, wherein at least one said circuit element is one of a waveguide, resonator, branch, coupler, reflector, semi-conductor laser, optical detector, metal-insulator-metal tunnel junction, heterojunction optical receiver, light emitting element, pin detector, non-linear optical element, optical amplifier, and photo detector.